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| 10/820,111 | 04/08/2004 | Denis Armand Proulx | ALC 3125 | 8431 |

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| EXAMINER | |
|---|---|
| TRAN, PHILIP B | |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/820,111 | PROULX ET AL. | |
| | Examiner | Art Unit | |
| | Philip B. Tran | 2155 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *15 May 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-7 and 9-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 9-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, it is unclear when an alarm is occurred. It seems that claim 1 has missing essential steps of “comparing the connectivity verification results to at least one specified connectivity verification threshold” and “”raising an alarm if at least one of the connectivity verification results has reached at least one specified connectivity verification threshold” before layer-2 and layer-3 objects affected by an alarm can be displayed and highlighted.

Regarding claim 6, it is unclear when an alarm is occurred. It seems that claim 6 has missing essential steps of “comparing the connectivity verification results to at least one specified connectivity verification threshold” and “”raising an alarm if at least one of the connectivity verification results has reached at least one specified connectivity verification threshold” before layer-2 and layer-3 objects affected by an alarm can be displayed and highlighted.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-7 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koritzinsky, U.S. Pat. No. 6,494,831 in view of Wood, U.S. Pat. No. 6,405,248 and further in view of Misra, U.S. Pat. No. 7,162,250 and further in view of Rabe et al (Hereafter, Rabe), U.S. Pat. No. 7,194,538.

Regarding claim 1, Koritzinsky teaches a network management connectivity verification framework comprising a connectivity verification server performing unattended connectivity verification jobs and a connectivity verification application for defining connectivity verification jobs, configuring the connectivity verification server accordingly (= verifying network connectivity between a diagnostic system and a remote service facility) [see Abstract and Figs. 1-5 and Col. 12, Lines 13-29].

Koritzinsky does not explicitly teach displaying connectivity verification results. However, Wood, in the same field of monitoring network nodes connectivity endeavor, discloses collecting connectivity information and displaying the network topology information [see Wood, Abstract and Col. 1, Line 61 to Col. 2, Line 9]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teaching of Wood into the teaching of Koritzinsky in order to efficiently keep track of network connectivity information and quickly identify alerting condition for network management purpose.

In addition, Koritzinsky and Wood do not explicitly teach specifying, by a user, at least one connectivity verification threshold for comparison to the connectivity verification results. However, Misra, in the same field of monitoring network nodes connectivity endeavor, discloses obtaining performance metrics and comparing against configured thresholds [see Misra, Fig. 6, step 601]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teaching of Misra into the teaching of Koritzinsky-Wood in order to efficiently keep track of network connectivity information and quickly adjust threshold condition for network management purpose.

Moreover, Koritzinsky further teaches IP address related to connectivity problems or failures as one of example of layer-2/layer-3 object related to an alarm/alert in the network [see Koritzinsky, Col. 11, Lines 8-40]. Koritzinsky-Wood-Misra do not explicitly teach highlighting objects affected by alarm/alert. However, Rabe, in the same field of monitoring network nodes connectivity endeavor, discloses highlighting objects that

have active alerts [see Rabe, Col. 6, Lines 4-30]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teaching of Rabe into the teaching of Koritzinsky-Wood-Misra in order to efficiently keep track of network connectivity information and quickly identify alerting condition for network management purpose.

Regarding claim 2, Koritzinsky further teaches a connectivity verification framework claimed in claim 1, wherein the connectivity verification jobs are scheduled and the connectivity verification server performs scheduled connectivity verification [see Col. 2, Line 49 to Col. 3, Line 10 and Col. 6, Lines 50-65 and Col. 8, Lines 31-43].

Regarding claim 3, Koritzinsky does not explicitly teach a connectivity verification framework claimed in claim 1, wherein the connectivity verification application further providing a display of connectivity verification results. However, Wood, in the same field of monitoring network nodes connectivity endeavor, discloses collecting connectivity information and displaying the network topology information [see Wood, Abstract and Col. 1, Line 61 to Col. 2, Line 9]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teaching of Wood into the teaching of Koritzinsky for the same reason set forth above to claim 1.

Regarding claim 4, Koritzinsky further teaches a connectivity verification framework claimed in claim 1, wherein the results of each connectivity verification job is

stored in a log and there exists an alert module for generating alerts in response to problems with connectivity [see Col. 6, Line 66 to Col. 7, Line 34 and Col. 7, Line 62 to Col. 8, Line 30]. Koritzinsky does not explicitly teach the results of each connectivity verification job may be compared against a connectivity profile, a deviation from the connectivity profile being used to raise an alarm.

However, Misra, in the same field of monitoring network nodes connectivity endeavor, discloses obtaining performance metrics and comparing against configured thresholds [see Fig. 6, step 601]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teaching of obtaining performance metrics and comparing against configured thresholds of Misra into the teaching of generating alerts in response to problems with connectivity of Koritzinsky in order to efficiently keep track of network connectivity information and identify specific connectivity problems for network management purpose so that the problems can be quickly resolved.

Regarding claim 5, Koritzinsky further teaches alarm information [see Abstract and Col. 6, Line 66 to Col. 7, Line 34 and Col. 7, Line 62 to Col. 8, Line 30]. Koritzinsky does not explicitly teach a connectivity verification framework claimed in claim 3, wherein the connectivity verification results are further used to generate a network map displaying selected connectivity verification results. However, Wood, in the same field of monitoring network nodes connectivity endeavor, discloses collecting connectivity information and displaying the network topology information [see Wood, Abstract and

Col. 1, Line 61 to Col. 2, Line 9]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teaching of Wood into the teaching of Koritzinsky for the same reason set forth above to claim 1.

Claim 6 is rejected under the same rationale set forth above to claim 1.

Regarding claim 7, Koritzinsky further teaches the method of creating a network connectivity verification test claimed in claim 6, wherein defining the connectivity verification job further comprising selecting via an NMS user interface and specifying a connectivity verification schedule [see Col. 2, Line 49 to Col. 3, Line 10 and Col. 6, Lines 50-65 and Col. 8, Lines 31-43], and verifying the network address location of system [see Col. 4, Lines 1-8]. Koritzinsky does not explicitly teach a pair of source and destination IP objects between which connectivity is to be verified. However, Wood, in the same field of monitoring network nodes connectivity endeavor, discloses collecting connectivity information and displaying the network topology information including address table information [see Wood, Abstract and Col. 1, Line 61 to Col. 2, Line 9 and Col. 2, Lines 12-60]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teaching of Wood into the teaching of Koritzinsky for the same reason set forth above to claim 1.

Regarding claim 9, Koritzinsky-Wood-Rabe do not explicitly teach the method of creating a network connectivity verification test claimed in claim 6, wherein specifying

the at least one connectivity verification threshold further comprises specifying a threshold for at least one of round trip delay, jitter, and packet loss. However, Misra, in the same field of monitoring network nodes connectivity endeavor, discloses obtaining performance metrics and comparing against configured thresholds [see Misra, Fig. 6, step 601] and measuring performance metrics such as packet transmission delays, packet loss rates, packet transmission delay variation (jitter), processor utilization, memory utilization, etc [see Misra, Col. 9, Lines 27-39]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teaching of Misra into the teaching of Koritzinsky-Wood-Rabe in order to efficiently keep track of network connectivity information and quickly identify specific connectivity problems for network management purpose.

Regarding claim 10, Koritzinsky further teaches the method of creating a network connectivity verification test claimed in claim 7, wherein a selected IP object include one of a router, IP interface, and IP address [see Col. 6, Lines 13-34 and Col. 11, Lines 8-40].

Regarding claim 11, Koritzinsky further teaches the method of creating a network connectivity verification test claimed in claim 7, wherein the pair of IP objects is selected selecting one of an IP link, an LSP, and a VPN [see Col. 6, Lines 13-34].

5. Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koritzinsky, U.S. Pat. No. 6,494,831 in view of Wood, U.S. Pat. No. 6,405,248 and further in view of Misra, U.S. Pat. No. 7,162,250 and further in view of Rabe et al (Hereafter, Rabe), U.S. Pat. No. 7,194,538 and further in view of admitted prior art (APA) [the background of instant application's specification].

Regarding claims 12-13, Koritzinsky-Wood-Misra-Rabe do not explicitly teach the method of creating a network connectivity verification test claimed in claim 6, wherein defining the connectivity verification job further comprises a step of: configuring a connectivity verification parameter including one of a number of ping commands to issue, a ping packet size, ping data fill pattern, a time to wait for response, and a type of service and configuring a connectivity verification parameter including one of a number of traceroute commands to issue, a traceroute packet size, traceroute packet data fill pattern, a time to wait for response, and a type of service.

However, the admitted prior art (APA) in the background of the instant application's specification discloses verifying connectivity between individual routers including pining/tracerout test [see APA, Paragraphs 0014 & 0021-0022]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teaching of APA into the teaching of Koritzinsky-Wood-Misra-Rabe in order to quickly identify specific connectivity problems for network management purpose.

6. Claims 14-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koritzinsky, U.S. Pat. No. 6,494,831 in view of Misra, U.S. Pat. No. 7,162,250 and further in view of Rabe et al (Hereafter, Rabe), U.S. Pat. No. 7,194,538.

Regarding claim 14, Koritzinsky teaches a method of performing a network connectivity verification in a network management context comprising steps of performing scheduled connectivity verification (= verifying network connectivity between a diagnostic system and a remote service facility) [see Abstract and Figs. 1-5 and Col. 12, Lines 13-29] and generating alerts in response to problems with connectivity [see Col. 6, Line 66 to Col. 7, Line 34 and Col. 7, Line 62 to Col. 8, Line 30]. Koritzinsky does not explicitly teach comparing a connectivity verification result with a threshold, said connectivity verification threshold specified by a user.

However, Misra, in the same field of monitoring network nodes connectivity endeavor, discloses obtaining performance metrics and comparing against configured thresholds [see Fig. 6, step 601]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teaching of obtaining performance metrics and comparing against configured thresholds of Misra into the teaching of generating alerts in response to problems with connectivity of Koritzinsky in order to efficiently keep track of network connectivity information and identify specific connectivity problems for network management purpose so that the problems can be quickly resolved.

Moreover, Koritzinsky further teaches IP address related to connectivity problems or failures as one of example of layer-2/layer-3 object related to an alarm/alert in the

network [see Koritzinsky, Col. 11, Lines 8-40]. Koritzinsky-Misra do not explicitly teach highlighting objects affected by alarm/alert. However, Rabe, in the same field of monitoring network nodes connectivity endeavor, discloses highlighting objects that have active alerts [see Rabe, Col. 6, Lines 4-30]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teaching of Rabe into the teaching of Koritzinsky-Misra in order to efficiently keep track of network connectivity information and quickly identify alerting condition for network management purpose.

Regarding claim 15, Koritzinsky further teaches the method of performing a network connectivity verification claimed in claim 14, further comprising a step of: storing connectivity verification job on computer readable medium for subsequent access and execution [see Col. 6, Line 66 to Col. 7, Line 34 and Col. 7, Line 62 to Col. 8, Line 30].

Regarding claims 16-17, Koritzinsky further teaches the method of performing a network connectivity verification claimed in claim 14, further comprising a step of: highlighting at least one IP object based on one of a connectivity verification job and a connectivity verification result and wherein a highlighted object is one of an OSI Layer 2 and OSI Layer 3 object [see Col. 6, Lines 13-34 and Col. 11, Lines 8-40].

Regarding claim 18, Koritzinsky further teaches the method of performing a network connectivity verification claimed in claim 14, wherein performing scheduled connectivity verification the method further comprising a step of: periodically executing connectivity verification tests [see Col. 12, Lines 13-31].

Regarding claim 20, Koritzinsky further teaches the method of performing a network connectivity verification claimed in claim 14, further comprising a step of: storing historical connectivity verification results on computer readable medium for subsequent access [see Col. 6, Line 66 to Col. 7, Line 34 and Col. 7, Line 62 to Col. 8, Line 30].

7. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koritzinsky, U.S. Pat. No. 6,494,831 in view of Misra, U.S. Pat. No. 7,162,250 and further in view of Rabe et al (Hereafter, Rabe), U.S. Pat. No. 7,194,538 and further in view of admitted prior art (APA) [the background of instant application's specification].

Regarding claim 19, Koritzinsky-Misra-Rabe do not explicitly teach the method of performing a network connectivity verification claimed in claim 14, wherein performing scheduled connectivity verification the method further comprising a step of: issuing a one of a ping command and traceroute command.

However, the admitted prior art (APA) in the background of the instant application's specification discloses verifying connectivity between individual routers including pining/tracerout test [see APA, Paragraphs 0014 & 0021-0022]. It would have

been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teaching of APA into the teaching of Koritzinsky-Misra-Rabe in order to quickly identify specific connectivity problems for network management purpose.

8. A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS ACTION IS SET TO EXPIRE THREE MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION. FAILURE TO RESPOND WITHIN THE PERIOD FOR RESPONSE WILL CAUSE THE APPLICATION TO BECOME ABANDONED (35 U.S.C. § 133). EXTENSIONS OF TIME MAY BE OBTAINED UNDER THE PROVISIONS OF 37 CAR 1.136(A).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip Tran whose telephone number is (571) 272-3991. The Group fax phone number is (571) 273-8300. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar, can be reached on (571) 272-4006.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Philip B Tran/
Primary Examiner, Art Unit 2155
June 22, 2008